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Water Reservations for the Environment and Assurances to Existing Users

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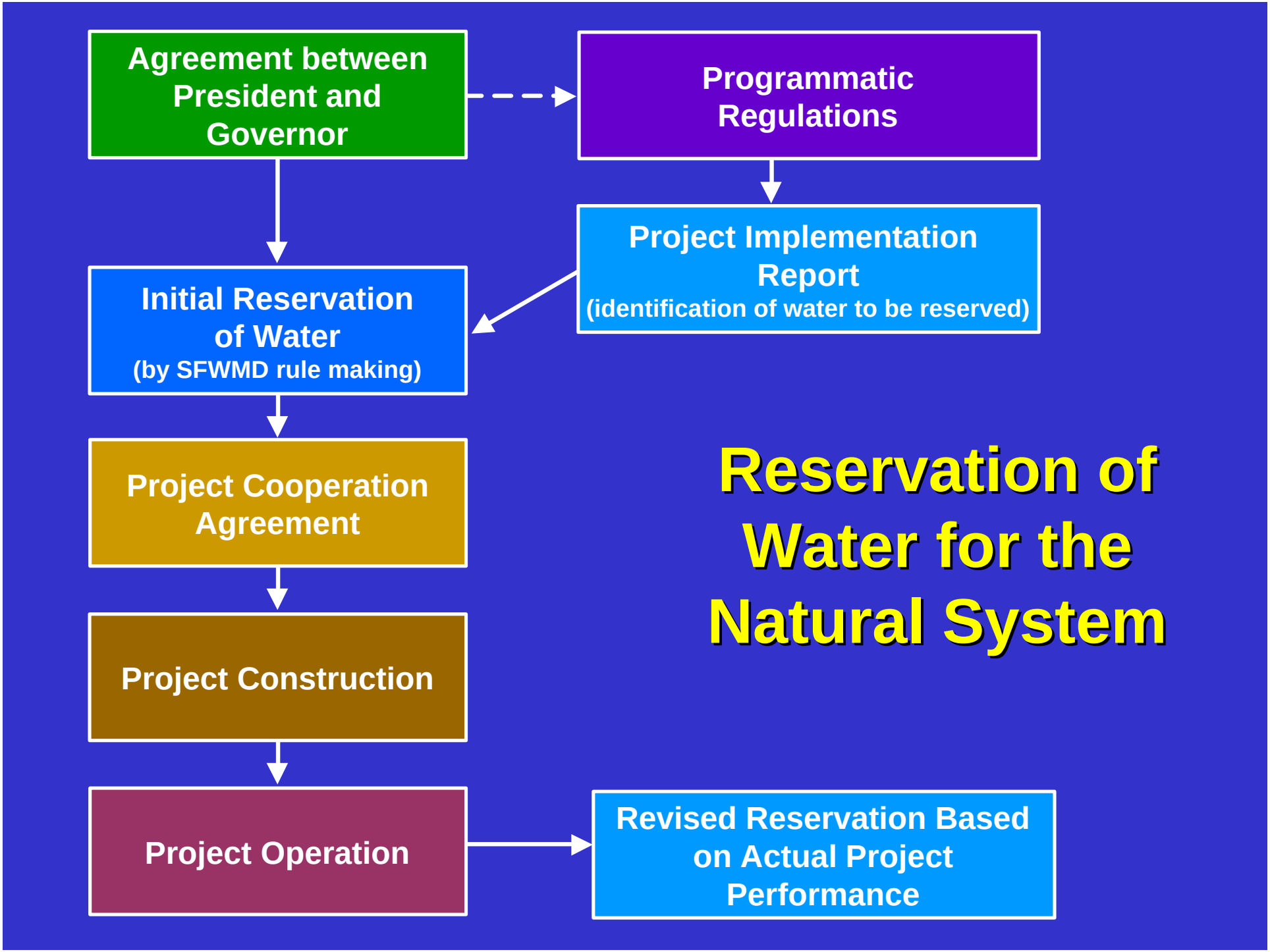
Purpose Of Presentation

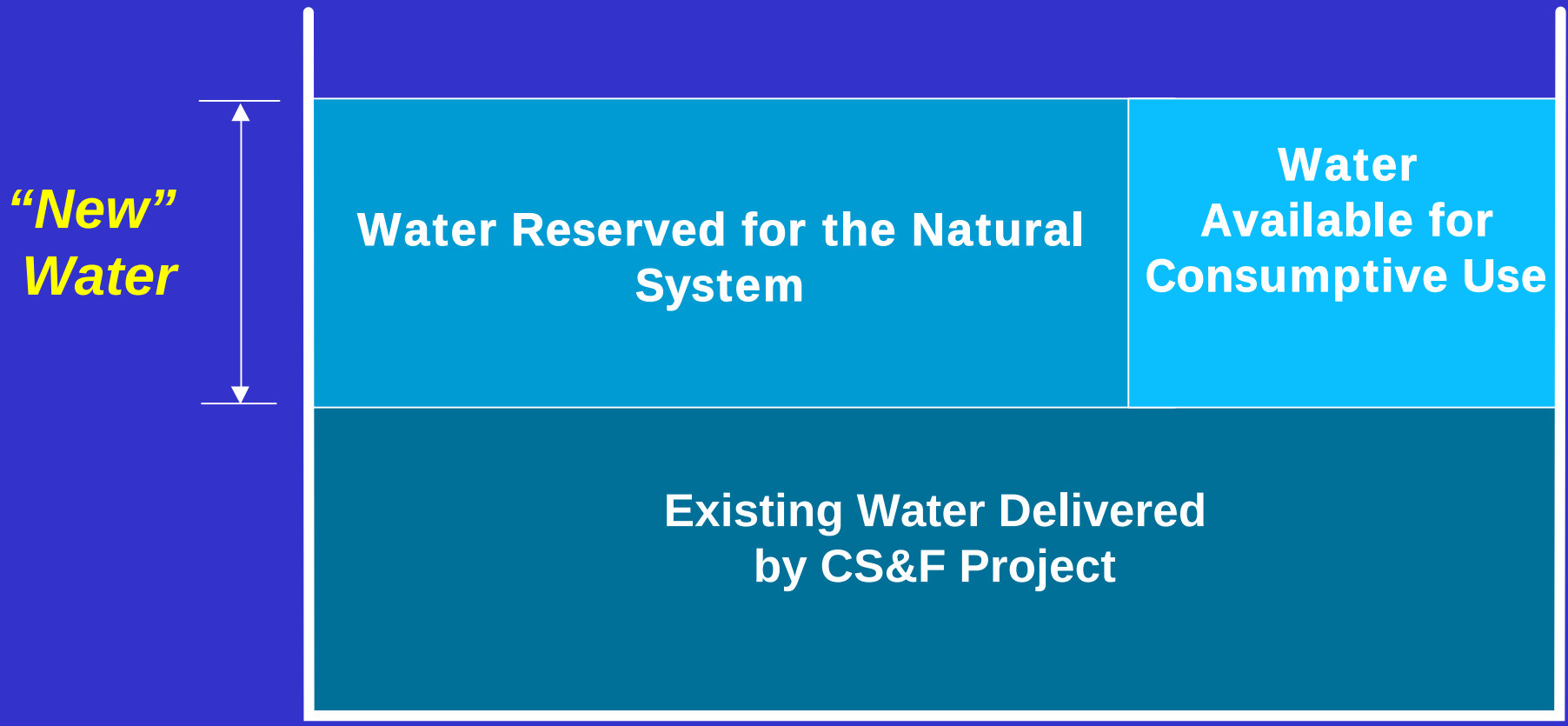
- Background
- Highlight Key Provisions of Federal & State Law
- Overview of Water Demands for Human Uses & Natural Systems
- Method for Quantifying Water for Natural Systems and Human Uses


Agreement between President and Governor
Programmatic Regulations
Project Implementation Report
(identification of water to be reserved)
Initial Reservation of Water
(by SFWMD rule making)
Project Cooperation Agreement
Project Construction
Project Operation
Revised Reservation Based on Actual Project Performance
Reservation of Water for the Natural System

What are Water Reservations?

- Set aside water for protecting fish and wildlife or public health & safety
- Reserved water not to be allocated to consumptive users
- Protect existing water users
- Periodic revisions based on changed conditions

Identifying Water Made Available by CERP



Reservations
Key Provisions of
Federal & State Law

WRDA Assurance Framework
(Section 601)

- Protect human and natural system water supplies through state law
- No allocation of new water until natural system water protected
- Protect against losses of existing sources (Dec. 2000) until adequate replacement for urban, tribal, Everglades National Park, fish & wildlife
- Provide flood protection

State Statute Assurance Requirements

- Protect human and natural system water supplies through state law
- Do not diminish water available to existing legal users via adverse impacts from project implementation
- Identify water supplies from CERP projects for humans and natural systems
- Water resource development for future human demands

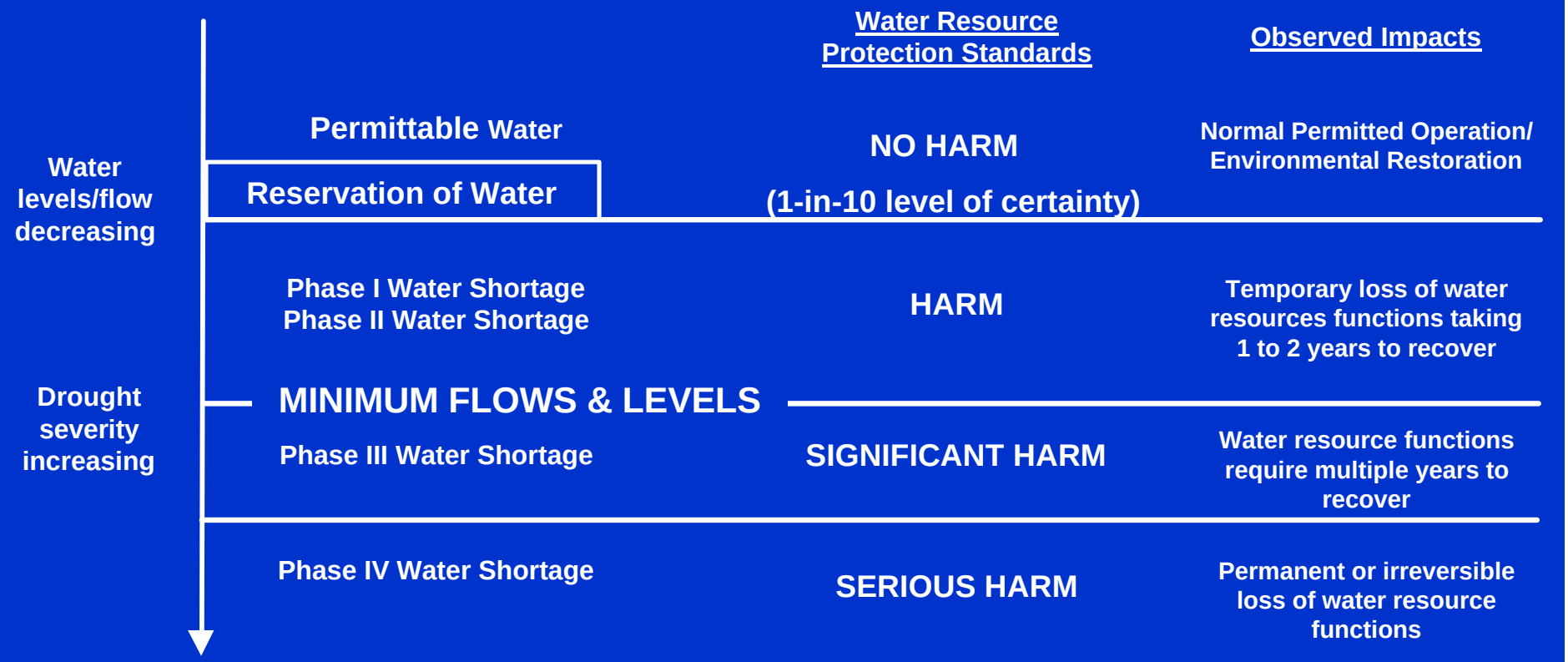
Basic Assurances Linkage in Reservations

- No shifting existing sources until replacement source available
- Natural system water not delivered until project operational
- No allocation of project water to human uses until project operational

Summary of State Tools to Protect Human and Natural System Supplies

- Water Reservation
- Consumptive Use Permitting - No Harm
- MFL - Significant Harm
- Water Shortage - Serious Harm
- Operations

Relationship of Water Resource Protection Tools Under State Law



Conceptual Relationship of Water Demands for Human Uses and Environmental Systems

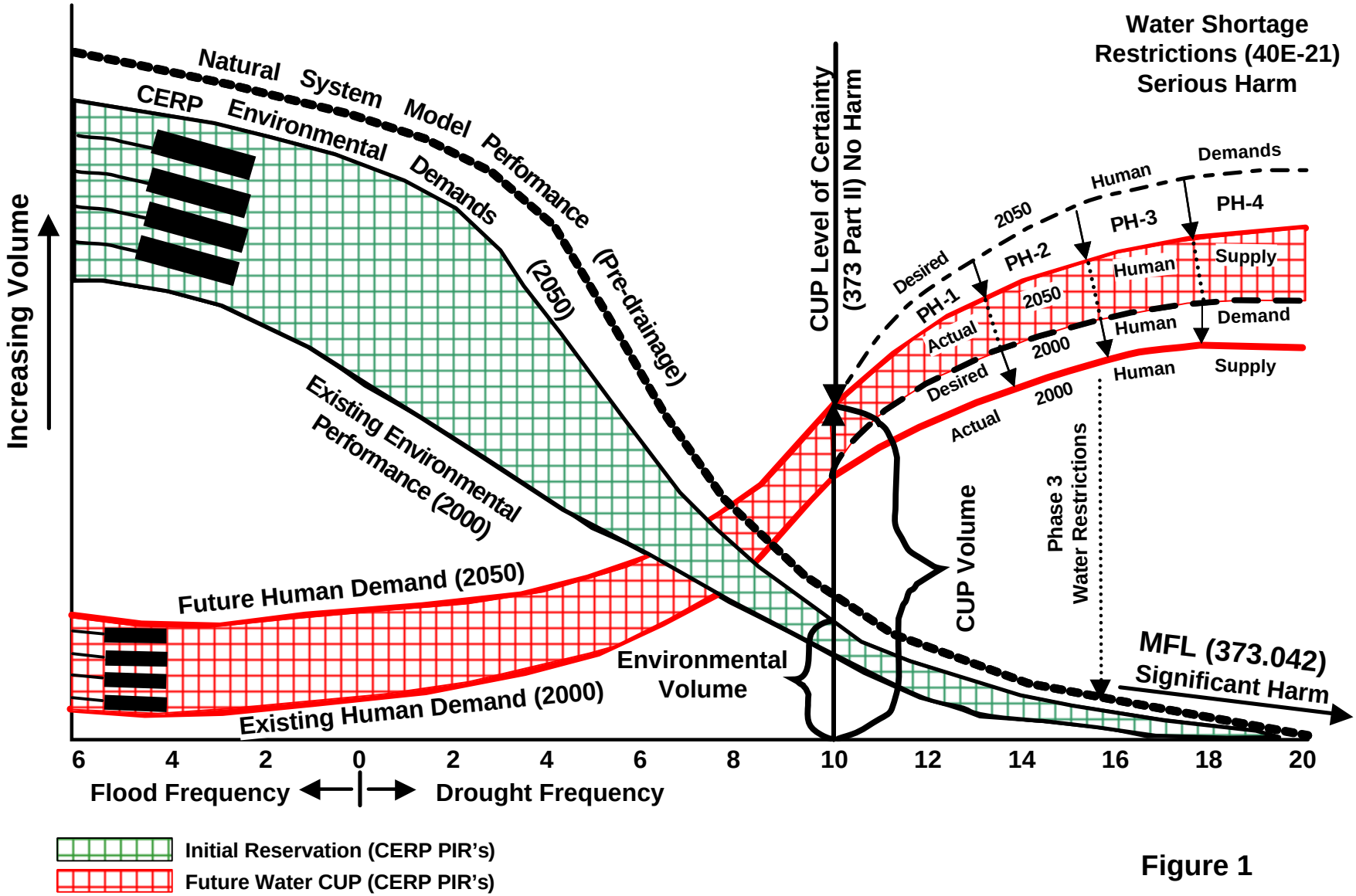


Figure 1

Process for Quantifying Water for Natural System and Human Uses

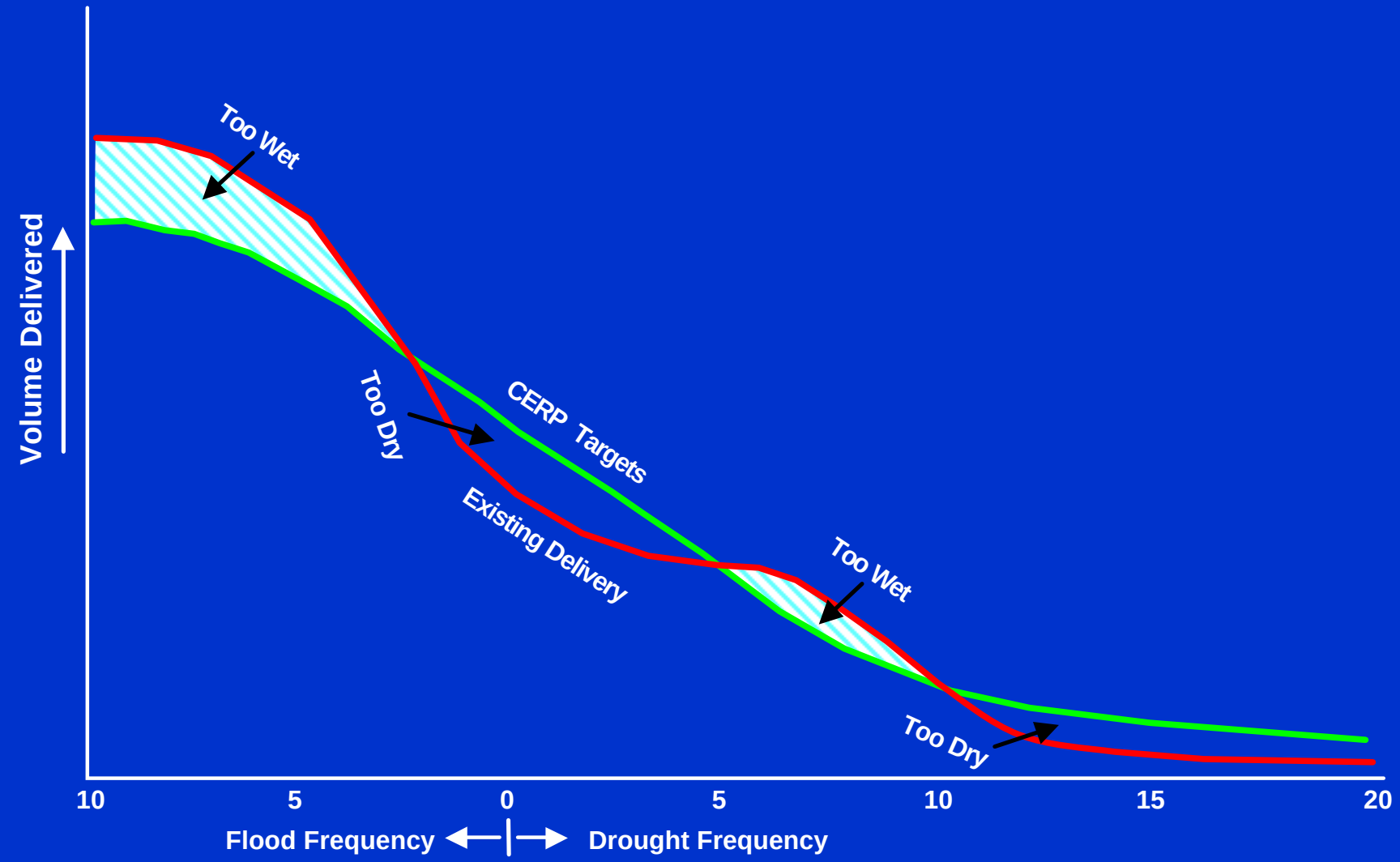
Process for Quantifying Water for Natural System and Human Uses

- Identify existing regional water availability
- Identify CERP project benefits
- Protect water for intended uses

Identify Existing Regional Water Availability

- Baseline conditions (December 2000) using existing structural constraints, existing operations, existing demands
- Simulate performance of regional system
- Historic rainfall conditions
- Identify existing sources, quantities, and destinations of regional water

Existing Deliveries vs CERP Hydropattern Targets for the Natural System



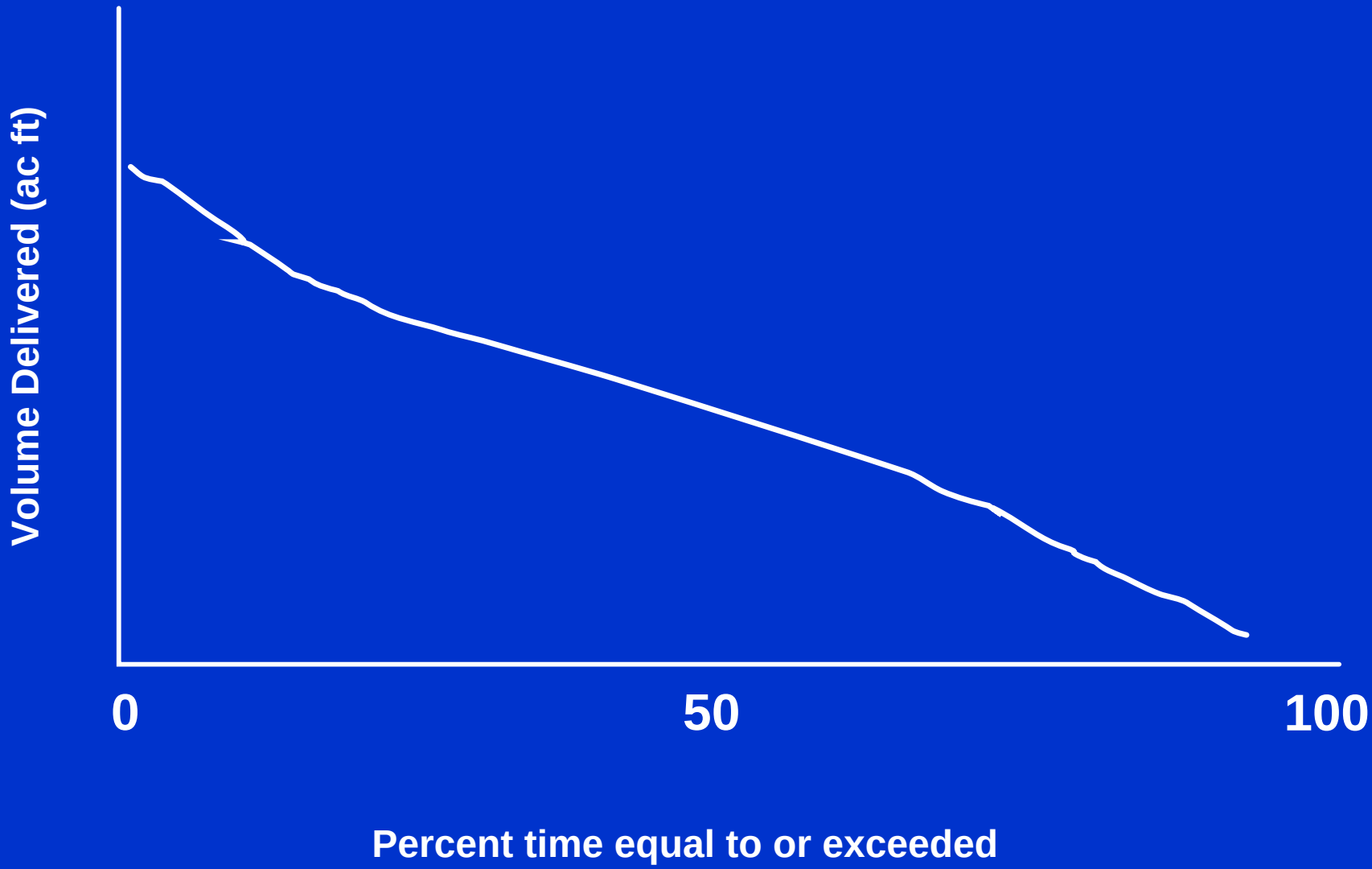
Quantify CERP Water Supply Benefits

- Identify project/system performance goals
- Define conditions/assumptions/operations
- Optimize project specific & system-wide performance
- Compare to “without project” conditions
- Define natural system & human portions of new water derived from project
  - quantities vary with hydrologic conditions

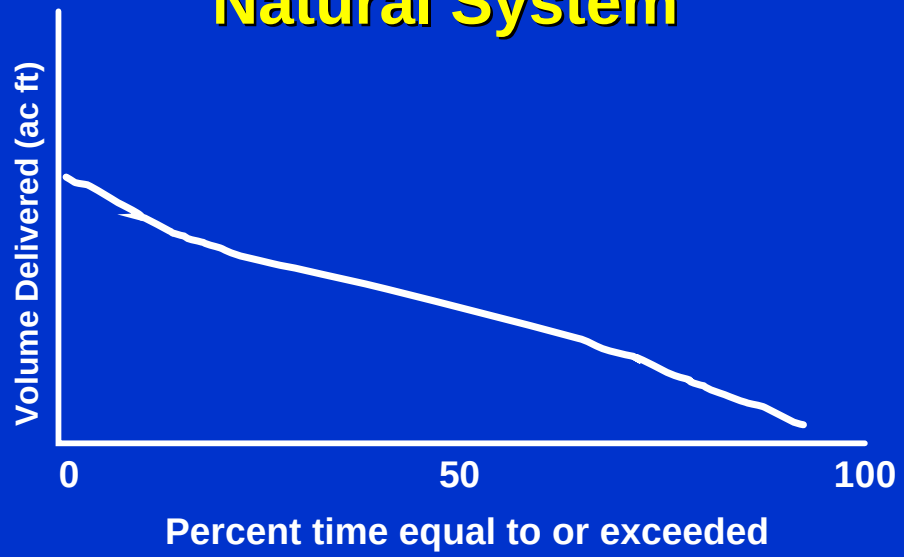
Quantification of New Water

- Volume duration curve concept
- Provide for variability of flows under a multitude of rainfall conditions
- Generated by project and system-wide
- Total volume duration has three components:
  - Natural system deliveries
  - Water supply deliveries
  - Flood protection releases

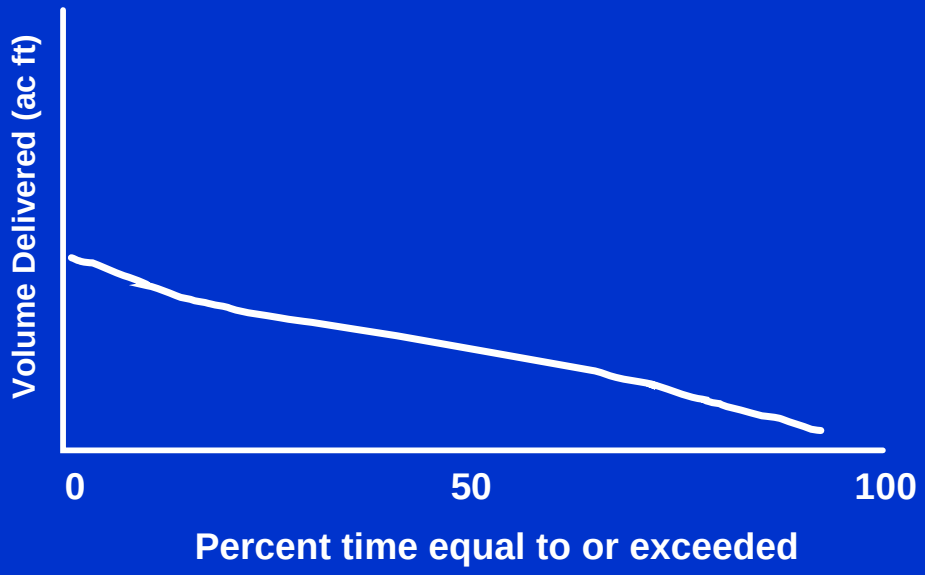
Project Performance



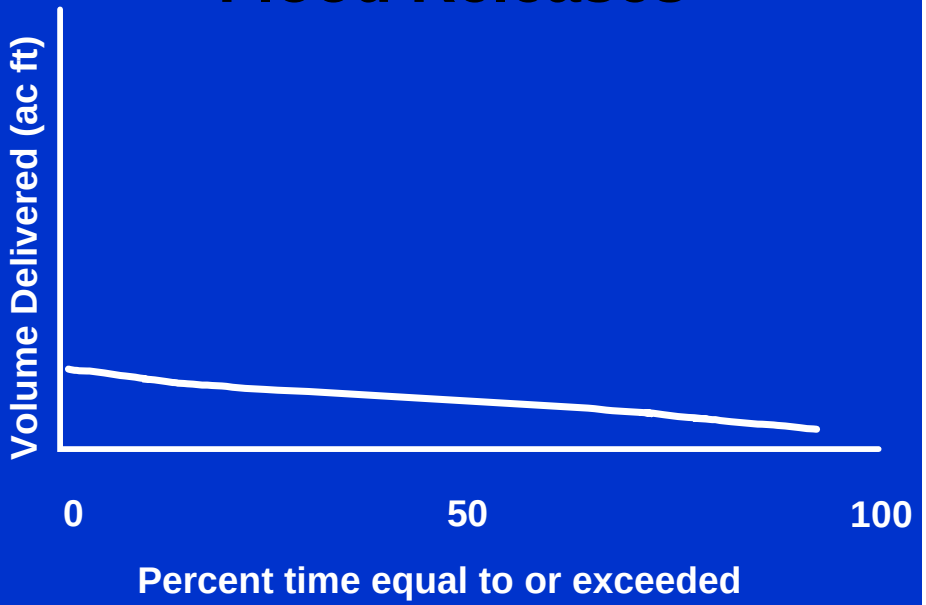
Natural System



Human Uses



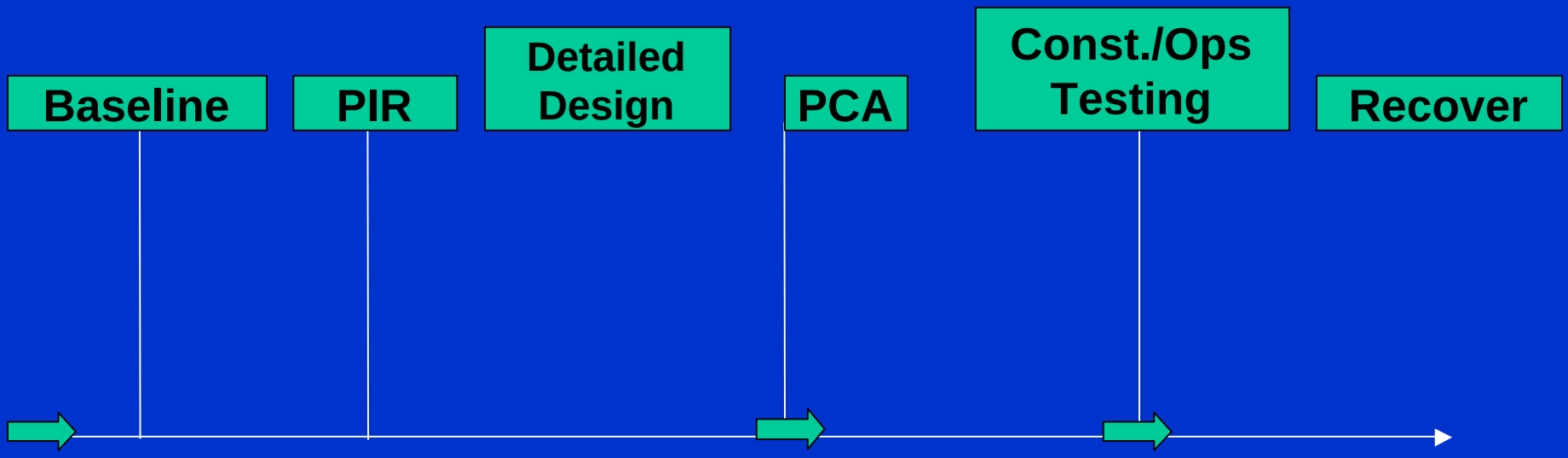
Flood Releases



Quantification of New Water (cont.)

- Establish system-wide bank account
- Avoids double accounting of new water
- Revised after each PIR completed
- Reserved prior to PCA execution
- Consistent with system-wide master water control manual

Integration of State/Federal Processes for Protection of Natural System Water & Consumptive Uses



Identify initial baseline conditions (Dec 2000)

Identify new water from project, based on performance and projected operations

Adopt initial project/ system-wide reservation for natural systems

- Revise initial reservation rule based on actual project performance
- Update operations manual
- Revise regional water availability rule